



Data Analysis with R

Learning R:

- ❖ What is R
- ❖ How to install R
- ❖ Installation R IDE
- ❖ Using and managing packages
- ❖ Data Types and Variables in R
- ❖ Basic Concept of Programming Language
- ❖ R Script

Data Wrangling with R:

- ❖ Using the built- in datasets
- ❖ Importing and Exporting into R
- ❖ Data Transformation
- ❖ Data Manipulation
- ❖ Case Study

Data Cleaning with R:

- ❖ Missing data
- ❖ Duplicate rows and values
- ❖ Converting data
- ❖ Formatting data
- ❖ Working with tidy data
- ❖ Outliners

Visualizations with R:

- ❖ Creating bar character for categorical variables
- ❖ Creating histogram and box plots for quantitative variables
- ❖ Creating scatterplots
- ❖ Ggplot2
- ❖ Exporting Graphs into Files

Statistics with R:

- ❖ Correlation
- ❖ Regression
- ❖ Classification



Cyber Security

- **Introduction of Cyber Security**
- Need of Cyber Security
- CIA Triad
- **Authentication & non-repudiation**
- Vulnerability, Threat and Risk
- Vulnerability Assessment & Tools
- Introduction to Kali Linux & Tools
- Using Nexpose, Qualys, Open VAS
- Network Reconnaissance & Scanning
- Port Scanning techniques (NMAP, ZENMAP)
- Enumeration
- Understanding DOS, DDOS, MIM, SQL Injection and Social Engineering Attacks.
- Understanding and Using Metasploit
- Introduction to BURP SUITE and OWASP
- Concepts of Cryptography
- Introduction and concepts of Reverse Engineering
- Introduction to BCP (Business Continuity Planning) and Disaster Recovery
- Security Auditing & Compliance